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No. 7.

EHRENBREITSTEIN ON THE RHINE.

Here Ehrenbreitstein, with her shattered wall,
Black with the miner's blast, upon her height,
Yet shews of what she was, when shell and ball,
Rebounding idly on her strength did light;
A tower of victory!—from whence the flight
Of baffled foes was watched along the plain:
But peace destroyed what war could never blight,
And laid these proud roofs bare to summer's rain,
On which the iron shower for years had poured in vain.

Childe Harold.

THE waters of the Rhine have long retained their pre-eminence, as forming one of the mightiest and loveliest among the highways of Europe. But among all its united trophies of art and nature, there is not one more brightly endowed with picturesque beauty or romantic association, than the fortress of which we annex a spirited engraving.

When the eye of "Childe Harold" rested upon its "shattered wall," and when the pencil of Turner immortalized its season of desolation, it had been smitten in the pride of its strength by the iron glaive of war; and its blackened fragments and stupendous ruins had their voice for the heart of the moralist, as well as their charm for the inspired mind of genius.

This celebrated German fortress, considered as the key of the Rhine and the Moselle, is situated near Coblenz, on the opposite side of the Rhine. Though it is closely connected with the country behind the dreary district of Weteravia, it has the appearance, towards the Rhine, of being nearly insular and perfectly pyramidal. The abruptness of its elevation above Coblenz is so little

diminished by the breadth of the noble river which separates them, that the rock may almost be said to threaten the city like a precipice; the streets of the latter being as open to inspection from the fortress, as those of a model upon a table. The only entrance into the castle from the Rhine, is by a road cut in the solid rock under four gateways. On each side of this, to a great height, there are tiers of batteries, formed, for the most part, not behind artificial walls, but within perpendicular masses of the solid rock, which has been hollowed out for the reception of cannon and soldiers. Such are its means of defence against a siege. For its support against a blockade provision was made in the fifteenth century, when five years were spent in digging, with incredible labor, a well through the solid rock, to the depth of 280 feet, as is mentioned in an inscription within the castle. The value and strength of Ehrenbreitstein has been often mentioned by travellers. It was considered impregnable until its surrender to the French in 1779, after a vigorous seige and blockade for two years.

THE MINERAL KINGDOM.

No. I.—GOLD.

THIS metal is sometimes found in solid masses, as in Hungary, Transylvania, and Peru; in a grained form, as in the West Indies; in a vegetable shape, resembling the branches of plants; in thin plates, covering other bodies, as in Siberia; or in eight-sided crystals, as in some of the Hungarian mines. When it is found under a perfect metallic form, it is termed *native gold*: the largest specimen ever found in Europe, stated to have weighed twenty-two ounces, was discovered some years since in the county of Wicklow, where other pieces, exceeding an ounce in weight, were also found. Native gold, however, is seldom met with perfectly pure; that which approaches nearest to perfection is of a fine yellow color, but it is frequently alloyed with silver, copper, iron, or platina, when it becomes of a brassy color, or of a green-

ish or gray yellow. Gold in its native state is sometimes concealed in other minerals; whence it is extracted by art, if sufficiently abundant to defray the expense.

Many rivers contain gold in their sands; the Tagus and Pactolus were anciently celebrated on this account: in Brazil it was so abundant, that the torrents were frequently diverted into new channels, for the purpose of collecting the gold they deposited.

Gold-mines are of rare occurrence in Europe; one, however, was discovered in 1781, in the valley of Oisans, in Dauphiny; but the vein was too poor to defray the expense of working it: gold-dust has also been found in several of the continental rivers. A mine was discovered in the time of Peter the Great, near Alonitz, among the rocks which skirt the eastern side of the Lake Ladoga; masses of native gold, weighing more than a pound, were found near the surface of the earth; this was supposed to be inexhaustible, but when the miners had reached the depth of a few fathoms, they were awakened from their golden dreams, on finding that they had arrived at a barren vein of quartz.

China and Japan are rich in this metal; but of all the Asiatic mines, those of Siam are the most productive; the king's domestic utensils, the troughs of his white elephant, and nearly all the ornaments of the temples being of solid gold.

In Sofala, Mosambique and Monomotapa, on the eastern coast of Africa, it is found at the depth of two or three feet from the surface. The gold-dust which is so important an article of commerce in Africa, is collected from earth deposited by the rivers. Bambouk also furnishes a considerable quantity, which is sold on the western coast from the mouth of the Senegal to Cape Palmas.

But it is in America that gold is found in the greatest abundance, sometimes in the form of spangles, and occasionally in veins, blended with other metals: the South American mines, and more especially those of Brazil and Chili, are the most productive.

Gold is so ductile and malleable that an ounce of it

may be drawn into a thread of seventy-three leagues in length, or beaten into sixteen hundred leaves of nine square inches each: its ductility, however, is greatly impaired by the presence of tin or arsenic. It readily assumes every form that human art can bestow upon it: its unalterable color, and the beautiful polish of which it is susceptible, render it the most eligible of all metals for ornamental purposes.

Gold is perfectly tasteless and scentless; indestructible by air, water, or fire; but on exposure to the focus of a powerful burning lens, it may be evaporated without losing its metallic state: for if a plate of silver be exposed to the fumes of gold thus melted, it soon becomes perfectly gilt. It was considered by alchemists, during the dark ages, to possess great medicinal virtues, and was administered as a medicine in various forms; but no sooner had the sun of true science begun to shine upon Europe, than the visions of alchemy vanished; and gold was no longer considered to be a panacea for all the "ills that flesh is heir to."

Gold is insoluble in any of the mineral acids taken separately; but *aqua regia*, which is a compound of the nitrous and muriatic acids, will dissolve it; and if to this be added a solution of tin, a fine purple powder is precipitated, known by the name of *Purple of Cassius*, which is preferred by painters in glass and enamel to all others: by adding volatile alkali to the solution, *aurum fulminans*, a highly dangerous explosive powder, is produced, which explodes upon the slightest pressure or friction, and has frequently been productive of the most fatal effects.

Strong passions work wonders, when there is a greater strength of reason to curb them.—*Tucker*.

There is no saying shocks me so much, as that which I hear very often, that a man does not know how to pass his time. It would have been but ill spoken by Methusalem in the nine hundred and sixty-ninth year of his life.—*Cowley*.



BUCKSTONE.

Among the many natural curiosities of England, the admiration of the scientific, as well as of the ordinary observer, has long been excited by those huge single masses of rock, which, resting on a comparatively small pivot, and exactly balanced there, still stand as steadily as though the narrow part were uppermost, and the whole body were firmly lodged on its base. Such are the celebrated Boulder Stone of the North, and the Logan Rock of Cornwall. The wood-cut at the head of this article represents with great accuracy the character of another called Buckstone, on the borders of Gloucestershire and Monmouthshire.

Buckstone is by no means the largest of its kind; though in some respects, perhaps, it repays more than any other the visit of the tourist. Independently of its extraordinary form and position, the situation in which it is placed gives it a very strong additional interest. Removed only a few yards from the summit of a high sugar-loaf hill, commanding one of the most varied and beautiful landscapes of which this country can boast, it is itself seen in some directions at a very great distance, conspicuous above the

copsewood, which embosoms it on every side; and inviting us to examine only its own extraordinary character, it presents to us a view which would otherwise probably have escaped our notice altogether. This view would of itself amply repay us for the time required to make the excursion from any of the neighboring places.

It is composed of a substance called mill-stone grit,—a plum-pudding stone, consisting chiefly of sand and quartz pebbles, familiarly known in the neighborhood by the name of Jackstones. Its circumference at the top is above fifty-three feet, while its base is less than eleven feet in girth. Its perpendicular height from the extremity of the projecting point to the level of the centre of the base is nearly fourteen feet. The whole mass rests on the middle of a square even table of stone, corresponding in extent very nearly with the extremity of the rock itself, and composed of the same material. But what makes the balance in this rock still more wonderful is, that this large square smooth insulated stone, which serves for its bed, far from being horizontal, is an inclined plane, sloping at an angle of almost twenty-five degrees; consequently, many bodies that might be balanced on a level ground, must of necessity roll down this leaning stone; yet this huge rock has kept its place for ages.

Geologists probably will almost unanimously agree, that the hand of man never interfered in either placing this rock on its present site, or in hewing it into its present form—that it is the work of nature only. The imagination of the tourist indeed has often regarded it as the work of art, and pronounced it to be nothing less than a Druidical altar; and fancy may discern in an adjoining stone the solid basin to receive the blood of the victim, or to cleanse the hands of the sacrificer. Certainly no place can be imagined more fitted for the priests of the oak and the mountain, who raised their altars upon "every high hill, and under every green tree," than Buckstone. And perhaps there is nothing absurd in conceiving that they employed this natural altar, like many others which tradition assigns to the same purpose, in the performance of their cruel rites. All such

inquiries, however, must at last only end in speculation; harmless it may be and amusing, but leading to no satisfactory result.—*Saturday Magazine.*

THE DELUGE.

BY MRS. HENRY ROLLE.

When o'er the mountains rose the orb of day,
And spread o'er vale and plain his cheering ray,
How swell'd the human bosom with delight,
As the rich landscapes burst upon the sight!
The ripening harvest waved in golden pride,
And clustering vineyards clothed the hillock's side,
Whence rose the song which lighten'd labour's toil,
As bow'd the swain beneath the luscious spoil;
Where the fair valley spread her bosom green,
What varied forms of busy life were seen!
There toil'd the hind, the hunter led the chase,
Or the bold warrior moved with martial grace;
Whilst blooming beauty cull'd the opening flower,
Or led the dance through pleasure's roseate bower,
Then, half-conceal'd beneath the cedar's shade,
The humble dwelling its white walls display'd;
Or the proud city's loftier domes arise,
Where pomp and grandeur caught th' admiring eyes.
Fair was the scene! but guilt and pain were there;
The tyrant master, and the slave's despair;
The haughty brow, that heaven's just God defied,
The lust of pleasure, and the rage of pride;
There from their bowls the midnight revellers reel;
There the fell murderer grasps the reeking steel:
By rapine led, the plunderers track their way,
Through waste and slaughter, to their hapless prey
Vile idol-gods pollute each shady grove,
And wanton beauty melts in lawless love;
Whilst age and infancy lament in vain,
Or bleed, the victims of the impious train.
Mustering his wrath, awhile his anger stay'd;
Till full their cup, the Lord of Heaven delay'd
To pour his vengeance; as the whirlwind sleeps,
Ere o'er the main with furious blast it sweeps,
Then burst at once, on earth's astonish'd train,
The raging tempest and tremendous rain;
Whilst pealing thunders heaven's vast concave rend,
And, struck by lightning, rolling rocks descend;
High heaves the ocean's bed—the o'erwhelming tide
Rushes against the mountain's yielding side;
'Tis vain for succour to those hills to fly,
For now not e'en their loftiest tops are dry;
Beast, man, and city, share one common grave,
And calm above them rolls the avenging wave;
Whilst yon dark speck, slow floating, now contains,
Of beast or human life the sole remains.

LONGEVITY—OLD PARR.

By a wise provision of the great author of our being, we are fond of life, and desirous, as far as we can, of extending the short span allotted to us on earth. For this purpose, health, which forms a large ingredient in human happiness, must be promoted; and whatever tends to health, tends also to old age. When, therefore, we meet with persons who have reached their eightieth or ninetieth year, or read of those whose age has amounted to a hundred and upwards, it is no less instructive than interesting to observe the means which, under Providence, have led to their arriving at such an advanced period of life.

It will generally be found, on inquiry into such cases, that certain modes of living have been adopted, which may be called some of the *conditions of longevity*: and the tables which have been given of the respective ages and residences of certain very aged persons, with some sketch of their history, establish this fact, with few exceptions. They have, almost all, been born of healthy parents, and have been early accustomed to exercise, temperance, and simplicity of food.

To these may be added, in the greater number of instances, early rising, and a due regulation of those passions which are bestowed on man for good and wise ends; but which, when abused, invariably hasten on his decay.

With these remarks, which we trust may prove acceptable to some of our readers, we give a likeness and short account of the celebrated THOMAS PARR, or as he is called, in a portrait of his own time, "The old, old, very old man of Winnington, in the parish of Alderbury, in Shropshire, who was born in the reign of King Edward the Fourth, in the year 1483. He lived one hundred and fifty-two years, nine months, and odd days, and departed this life at Westminster, November 15, 1635."

There is but little mentioned of his life; but perhaps the most remarkable incident in it was the occasion of his being brought from his native village to London.

Thomas, earl of Arundel and Surrey, earl marshal of England, was visiting some manors which he held in Shropshire; and, hearing of Parr's great age, he pro-



Old Parr.

posed to him a journey to London. The earl accordingly provided a litter and two horses for him; and with some difficulty, in consequence of the crowds of people who pressed to see the old man, got him safe to London, where he was well entertained at his lordship's cost.

The following amusing anecdote is told of him. His three leases of twenty-one years each, making sixty-three years, being expired, he took his last lease of his landlord, Mr. John Porter, for his life, with which lease he lived

more than fifty years. But he wished for his wife's sake, to renew his lease for years, which his landlord would not consent to; upon which Old Parr, who had been long blind, and was sitting in his chair by the fire, being told by his wife that young Mr. Porter, the landlord's son, was coming towards the house to call, "Is he so," said Parr, "I prithee, wife, lay a pin on the ground near my foot, or at my right toe," which she did; and when young Mr. Porter came, the old man said, after the usual salutations, "Wife, is not that a pin that lies at my foot?" "Truly, husband," quoth she, "it is a pin indeed!" so she took it up, and Mr. Porter was amazed that the old man had recovered his sight again; but it was quickly found to be "a witty conceit, thereby to have him suppose him to be more lively than he was, because he hoped to have his lease renewed for his wife's sake."

The longevity of Thomas Parr, seems to have descended as an heir-loom to his posterity; as his son lived to the age of one hundred and thirteen, his grandson to one hundred and nine, and his great grandson to one hundred and twenty-five.

Perhaps the most extraordinary instance on record of *liveliness* such as is shown in the anecdote above, at an extreme old age, is that of the countess of Desmond, who died one hundred and forty years old. Her death happened at the end of Queen Elizabeth's reign, it was said at the time, "by a fever occasioned by a fall from a walnut-tree!"—*London Saturday Magazine*.

ANTIQUITY OF MECHANICAL SCIENCE.

We read in Genesis, that ships were as old even on the Mediterranean, as the days of Jacob. We likewise read that the Philistines brought thirty thousand chariots into the field against Saul; so that chariots were in use 1070 years before Christ. And about the same time architecture was brought into Europe. And 1030 years before, Ammon built long and tall ships with sails, on the Red Sea and Mediterranean. And, about ninety years after, the ship *Argo* was built, which was the first Greek

vessel that ventured to pass through the sea by help of sails, without sight of land, being guided only by the stars. Dædalus also, who lived 980 years before Christ, made sails for ships, and invented several sorts of tools for carpenters and joiners to work with. He also made several moving statutes, which could walk or run of themselves. And, about 800 years before Christ, we find in 2 Chron. xv., that Uzziah made in Jerusalem, engines, invented by cunning men, to be on the towers and upon the bulwarks, to shoot arrows and great stones withal. Corn mills were early invented; for we read in Deuteronomy, that it was not lawful for any man to take the nether or the upper mill stone to pledge; yet water was not applied to mills before the year of Christ 600, nor windmills used before the year 1200. Likewise 580 years before Christ, we read in Jeremiah xvii. of the potter's wheel. Architas was the first that applied mathematics to mechanics, but left no mechanical writings behind him; he made a wooden pigeon that could fly about. Archimedes, who lived about 200 years before Christ, was a most subtle geometer and mechanic. He made engines that drew up the ships of Marcellus at the siege of Syracuse; and others that would cast a stone of a prodigious weight to a great distance, or else several lesser stones, as also darts and arrows; but there have been many fabulous reports concerning these engines. He also made a sphere, which showed the motion of the sun, moon, and planets. And Polidonus afterwards made another, which showed the same thing.

In these days, the liberal arts flourished, and learning met with proper encouragement; but afterwards they became neglected for a long time. Aristotle, who lived about 200 years before Christ, was one of the first that wrote any methodical discourse on mechanics. But at this time, the art was contained in a very little compass, there being scarce any thing more known about it than the six mechanical powers. In this state it continued till the sixteenth century, and then clock work was invented; and about 1650, were the first clocks made. At this time, several of the most eminent mathematicians

began to consider mechanics; and by their study and industry have prodigiously enlarged its bounds, and made a most comprehensive science. It extends through heaven and earth; the whole universe, and every part of it, are its subjects. Not one particle of matter but what comes under its laws. For what else is there in the visible world, but matter and motion? and the properties and affections of both these are the subject of mechanics.

THE LAST DAY.

HARK! from the deep of heaven, a trumpet sound
Thunders the dizzy universe around;
From north to south, from east to west it rolls,
A blast that summons all created souls;
The dead awaken from their dismal sleep:
The sea has heard it; coiling up with tread,
Myriads of mortals flash from out her bed!
The graves fly open, and, with awful strife,
The dust of ages startles into life!

All who have breathed, or moved, or seen, or felt;
All they around whose cradles kingdoms knelt;
Tyrants and warriors, who were throned in blood;
The great and mean, the glorious and the good,
Are raised from every isle, and land, and tomb,
To hear the changeless and eternal doom.

But while the universe is wrapped in fire,
Ere yet the splendid ruin shall expire,
Beneath a canopy of flame behold,
With starry banners at his feet unroll'd,
Earth's Judge: around seraphic minstrels throng,
Breathing o'er golden harps celestial song;
While melodies aerial and sublime
Weave a wild death-dirge o'er departing Time.

Imagination! furl thy wings of fire,
And on Eternity's dread brink expire;
Vain would thy red and raging eye behold
Visions of Immortality unroll'd!
The last, the fiery chaos hath begun,
Quench'd is the moon, and blackened is the sun!
The stars have bounded through the airy roar;
Crush'd lie the rocks, and mountains are no more;
The deep unbosom'd, with tremendous gloom
Yawns on the ruin, like creation's tomb!

And, lo! the living harvest of the Earth,
Reap'd from the grave, to share a second birth;
Millions of eyes, with one deep dreadful stare,
Gaze upward through the burning realms of air;
While shapes, and shrouds, and ghastly features gleam,
Like lurid snow-flakes in the moonlight beam.

Upon the flaming Earth one farewell glance !
The billows of eternity advance ;
No motion, blast, or breeze, or waking sound ;
In fiery slumbers glares the world around !
'Tis o'er ; from yonder cloven vault of heaven,
Throned on a car by living thunder driven,
Arrayed in glory, see, th' Eternal come !
And while the Universe is still and dumb,
And hell o'ershadow'd with terrific gloom,
To immortal myriads deal the judgment-doom !
Wing'd on the wind, and warbling hymns of love,
Behold ! the blessed soar to realms above :
The cursed, with hell uncover'd to their eye,
Shriek—shriek, and vanish in a whirlwind cry !
Creation shudders with sublime dismay,
And in a blazing tempest whirls away !

JAMES MONTGOMERY.

BOSCOBEL COTTAGE.



BOSCOBEL COTTAGE is celebrated in English history, as having been the first place of refuge in which king Charles II. took shelter after his defeat at the battle of Worcester,

Sept. 3d 1651. It is situated near the little town of Madeley, on the confines of Worcestershire and Shropshire, and was, at the time referred to, the residence of William Penderell, a forester, or servant in husbandry, to Mr. Giffard, the owner of the surrounding domain. To the fidelity of this man, his wife, his mother and his four brothers, Richard, Humphrey, John, and George Penderell, was the fugitive king indebted for some days of concealment and safety, when even the noble and gentle who parted from him chose to remain in voluntary ignorance of the exact place of his retreat "as they knew not what they might be forced to confess."

Few palaces awaken more pleasing recollection of human nature in our minds than does this lowly cottage. Its inhabitants were of the poorest among the poor, the humblest among the humble; death, on the one hand, was the certain punishment which attended their fidelity if discovered; while, on the other hand, riches, beyond any thing they could have contemplated, courted their acceptance, and might have been secured by one single treacherous word: yet did this virtuous band of brothers retain their fidelity untempted, and their loyalty unshaken. In the immediate vicinity of this house stood the "ROYAL OAK," among the branches of which the king remained concealed while his pursuers actually passed round and under it; the original tree was, after the Restoration, speedily destroyed by the zeal of the loyalists to possess relics of their sovereign's hiding place, but another raised from one of its acorns, is still flourishing.

Every man hath a kingdom within himself: Reason, as the princes, dwells in the highest and inwardmost room; the senses are the guard and attendants on the court; without whose aid, nothing is admitted into the presence; the supreme faculties (as will, memory, &c.) are the peers; the outward parts, and inward affections, are the commons; violent passions are rebels, to disturb the common peace.—*Bishop Hall.*

NATURAL HISTORY.

THE PAPER NAUTILUS—*Argonauta Argo.*

The curious inhabitant of this elegant shell has, from the earliest ages, excited the admiration of the student in natural history; and, at the same time, its true nature has eluded the research of the most acute observers. The animal agrees in so many points with the Sepia or Cuttle-fish, which never possesses a shelly covering, that,

*The Paper Nautilus.*

had it been found without that beautiful addition, naturalists would have referred it, without hesitation, to that particular division of the dwellers in the deep; it is, however, always met with along with the shell; and although here appears to be no bond of union between the tenant and its dwelling, still the purposes to which it applies it, imply at any rate a long-continued occupancy, if they do not absolutely point out the Nautilus as the original architect of the shell.

The name Argonaut has been applied to this sea-born navigator, from its resemblance, when floating on the waves, to a vessel in full sail, Argo being the name of the ship which was supposed to have been the first fitted out for commercial adventure.

In calm summer days, these beautiful little creatures may be seen, in considerable numbers, steering their little barks on the surface of the waters of the Mediterranean. The words of the ancient Roman naturalist, Pliny, give a pleasing description of its habits. "Among the principal miracles of nature, (says he) is the animal called Nautilus or Pompilos: it ascends to the surface of the sea, in a supine posture, and gradually raising itself up, forces out, by means of its tube, all the water from its shell, in order that it may swim more readily; then throwing back the two foremost arms, it displays between them a membrane of wonderful tenuity, which acts as a sail, while, with the remaining arms, it rows itself along, the tail in the middle acting as a helm to direct its course, and thus it pursues its voyage; and, if alarmed by any appearance of danger, takes in the water and descends."

Although the Argonauta has never yet been discovered attached to its shell, some observations which have been recently made on the Pearly Nautilus, which very nearly resembles it, have almost proved that such a connexion does really exist. But whether the shell is formed by itself, or only used to assist the creature in its movements, the instinct displayed is not the less wonderful, or worthy of observation. The Mediterranean, and warmer parts of the Atlantic, abound in these interesting animals, and one species is also found in the Indian ocean.

THE AGAMI HERON

Is a species of crane which is found in Cayenne, in South America. It is about thirty inches in length, and has long feathers, of a deep blue, bending over the tail. The under side of the body resembles in color rusty iron; the neck is of the same color before, but blueish

below, and dark blue above. The head and neck are covered with down, and the former bears a large crest.

The heron seeks every where the neighborhood of lakes, of rivers, and of lands intersected by water.—Almost always solitary, it remains, for hours together, immoveable in the same spot. When it puts itself in



The Agami Heron.

motion to watch, upon their passage, and more nearly, the frogs and fishes, which constitute its chief aliment, it enters into the water above the knee, with its head between the legs, and in this position, after having patiently awaited the moment of seizing its prey, it suddenly unfolds its long neck, and pierces its victim with its bill. It has been ascertained that it swallows frogs entire, for their bones are found in its stomach unbroken. In time of dearth, and when the water is covered with ice, it approaches running streams, and hot springs, where it is said to feed on the water lentil, and other small plants. But it frequently exposes itself to perish, rather than seek a milder climate. In the different seasons of the year, it

constantly appears so melancholy and insensible, that it will remain alone and exposed in the worst weather, on some stump in the midst of an inundated meadow, while the blongois, (a smaller kind of heron,) takes shelter in the thick herbage, and the bittern in the midst of the reeds.

The herons, which unite to their sad and uniform existence all the torments of perpetual fear and inquietude, are not accustomed to take flight, except at night, and for the purpose of betaking themselves into the woods of thick and lofty foliage in the neighborhood, and from which they return before the dawn of day. Then it is that their sharp and unpleasant scream is heard, which might be compared to that of a goose, were it not shorter and more melancholy. In the day-time, they fly away to a great distance from the sight of man, and when attacked by the eagle or the falcon, they endeavor to escape by rising into the air, and getting above them. The wings of the heron strike the air in an equal and regulated motion, and this uniform flight raises and carries its body to such an elevation, that, at a distance, nothing is perceptible except the wings, which are at length lost sight of in the region of the clouds.—*Cuvier's Animal Kingdom.*

THE HOODED SNAKE.

The Cobra di Capello, or hooded snake, called by the Indians the *naag*, or *nagao*, is a large and beautiful serpent; but one of the most venomous of all the coluber class; its bite generally proves mortal in less than an hour. It is called the *hooded snake*, from having a curious hood near the head which it contracts or enlarges at pleasure; the centre of this hood is marked in black and white like a pair of spectacles, from whence it is also named the spectacle-snake.

Of this genus are the dancing-snakes, which are carried in baskets throughout Hindostan, and procure a maintenance for a set of people, who play a few simple notes on the flute, with which the snakes seem much delighted,

and keep time by a graceful motion of the head; erecting about half their length from the ground, and following the music with gentle curves, like the undulating lines of a swan's neck. It is a well attested fact, that when a house is infested with these snakes, and some others of the coluber genus, which destroy poultry and small



The Hooded Snake.

domestic animals, as also by the larger serpents of the boa tribe, the musicians are sent for; who, by playing on a flageolet, find out their hiding-places, and charm them to destruction; for no sooner do the snakes hear the music, than they come softly from their retreat, and are easily taken. "I imagine," (says Dr. Russell,) "these musical snakes were known in Palestine, from the Psalmist comparing the ungodly to the deaf adder, which stoppeth her ears, and refuseth to hear the voice of the charmer, charm he never so wisely."

"When the music ceases, the snakes appear motionless; but if not immediately covered up in the basket, the spectators are liable to fatal accidents. Among my drawings is that of a cobra di capello, which danced for an hour on the table while I painted it; during which I frequently handled it, to observe the beauty of the spots, and especially the spectacles on the hood, not doubting

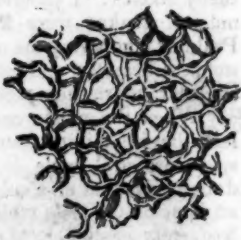
but that its venomous fangs had been previously extracted. But the next morning, my upper servant, who was a zealous Mussulman, came to me in great haste, and desired I would instantly retire, and praise the Almighty for my good fortune. Not understanding his meaning, I told him that I had already performed my devotions, and had not so many stated prayers as the followers of his prophet. Mahomed then informed me, that while purchasing some fruit in the bazaar, he observed the man who had been with me on the preceding evening, entertaining the country people with his dancing snakes; they, according to their usual custom, sat on the ground around him; when, either from the music stopping too suddenly, or from some other cause irritating the vicious reptile which I had so often handled, it darted at the throat of a young woman, and inflicted a wound of which she died in about half an hour. Mahomed once more repeated his advice for praise and thanksgiving to Alla, and recorded me in his calendar as a lucky man."

MICROSCOPE.—No. II.

POLYPI.

THE different species of sponge, which the Microscope has discovered to be the habitations of Polypi, are very interesting objects; when viewed with an instrument of a moderate power, they present to the eye a curious mass of net-work, which once formed the cells of the Polypus. If the power is increased, the remains of the little tenants may sometimes be detected. These consist of a small bony or chalky axis, like a needle, which when the animal was living, formed the centre of its body.

Fig. 1.



There is a small species of sponge found frequently among seaweeds, from its appearance called "Crumb-of-bread sponge," which, when placed under the magnifier, seems to be almost entirely composed of bunches of little needles, lying across each other like net-work. B is a magnified representation of the small piece of this species seen at A. When dry, the little needles, or spiculæ, are so extremely fine and sharp, as to cause a most irritating itching, if unluckily they should get between the fingers of the observer.

Fig. 2.



Fig. 3.



The animal of the *Corallines*, which are found so abundantly on every coast, attached to stones and other substances, belong to the same class, and the houses they construct are excellent objects for the microscope.

The annexed cuts are representations of five different species, engraved of the natural size, and accompanied by a portion considerably magnified.

Fig. 4.



Fig. 5.





Fig. 6.

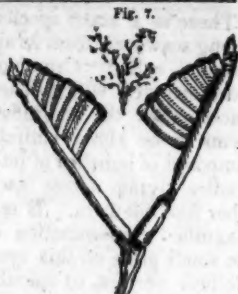


Fig. 7.

In figures 3, 4, and 5, the Polypi themselves are seen, with their feelers put forth in search of prey.

- Fig. 3. *Sertularia pumila*, Great tooth-coralline.
 4. ————— *polyzonias*, Sea-tamarisk.
 5. ————— *halecyna*, Herring-bone coralline.
 6. ————— *antennina*, Lobster's-horn coralline.
 7. ————— *lendigera*, Nit coralline.

Fig. 8 represents a magnified view of the *Hydra brunnea*, or brown Hydra, another species of Polypus, which is not uncommon in fresh water in the months of July and August. The cut shows the manner in which the young are produced. These Polypi have been the subjects of many curious experiments, which show the surprising tenacity of life in the lower orders of animals. They have been cut across, divided lengthwise, and even turned inside out, and yet each portion has not only continued living, but has become a perfect animal.

Sea-weed and other substances, which have been left for some time undisturbed, are frequently found covered with a chalky incrustation, which appears to the naked eye like net-work, but, if placed under a moderate power,



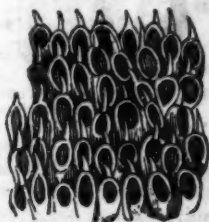
Fig. 8.

exhibits a series of little cells or chambers, most beautifully formed: each of these tiny nests originally contained a living creature. The name given to these Polypi is *Flustra*, and they are extremely abundant on the sea-coast in every latitude. Figures 9 and 10 are different species.

Fig. 9.



Fig. 10.



A, fig. 9, is a piece of the *Flustra* of the natural size, covering a sea-weed; B is an enlarged view of the cells; and C the animal itself.

Fig. 11.



Fig. 12.



Fig. 9. *Flustra foliacea*, Broad-leaved hornwrack.

10. — *pilosa*, Prickly hornwrack.

11. Chalky axis or centre of a coralline very common on the English coast.

12. The great tooth-coralline covered with minute shells.



Fig. 13.



Fig. 14.

Fig. 14.

Fig. 13. The pitcher hornwrack, a native of the Red sea.
14. Animal of a polypus very highly magnified.

The corallines appear to the naked eye, from their branching form, and from being fixed at the base to some other substance, more like vegetable than animal productions, and for a long time were known by the name of Zoophytes, that is, animal plants, and were considered as the link between animal and vegetable life.

The red coral of commerce, of which beads and necklaces are made, is formed by an animal of the class Polypi; but instead of this stony deposit becoming a dwelling-place, in which its ingenious architect retreats for safety from outward injury, it merely answers the purpose of a strong support, surrounded by a thin fleshy substance, in which a numerous tribe of minute Polypi form their fragile dwellings.

In contemplating the slight and diminutive forms of this curious portion of the animal kingdom, we are apt to consider them as acting some very subordinate part; but the geologist can inform us, that the united and constant efforts of these specks of animation have been productive of gigantic effects. A great portion of the South Sea Islands have their foundations formed of coral reefs; that is, immense masses of different species of corals and corallines; in which, in the first instance, sea-weeds and other substances became entangled; as these rotted, a vegetable mould was produced; the sea-birds frequented them, and brought different kinds of seed from other places, whose growth and decay still continued to add to

the soil, till at length it became of sufficient depth and substance to offer a resting-place to some enterprising fishermen.*

Montgomery, in his poem of the *Pelican Island*, gives the following beautiful description of the formation of one of these islands.

I MARK'D a whirlpool in perpetual play,
As though the mountain were itself alive,
And catching prey on every side, with feelers
Countless as sunbeams, slight as gossamer.
Compress'd like wedges, radiated like stars,
Branching like sea-weed, whirl'd in dazzling rings;
Subtle and variable as flickering flames,
Sight could not trace their evanescent changes,
Nor comprehend their motions, till minute
And curious observation caught the clue
To this live labyrinth—where every one,
By instinct taught, performed its little task.
Millions of millions thus, from age to age,
With simplest skill, and toil unwearable,
No moment and no movement unimproved,
Laid line on line, on terrace terrace spread,
To swell the heightening, brightening, gradual mound,
By marvellous structure climbing toward the day.
Omnipotence wrought in them, with them, by them;
Hence what Omnipotence alone could do,
Worms did. I saw the living pile ascend,
The mausoleum of its architects,
Still dying upwards as their labors closed;
Slime the material; but the slime was turn'd
To adamant by their petrific touch;
Frail were their frames, ephemeral their lives,
Their masonry imperishable. * * * * *
* * * * * A point at first,
It peer'd above those waves a point so small,
I just perceived it fixed where all were floating;
And when a bubble cross'd it, the blue film
Expanded like a sky above the speck;
That speck became a handbreadth; day and night
It spread, accumulated, and ere long
Presented to my view a dazzling plain,
White as the moon amid the sapphire-sea.
Compared with this amazing edifice,
Babel's stupendous folly, though it aim'd
To scale heaven's battlements, was but a toy,
The plaything of the world in infancy.
Nine times the age of man that coral-reef
Had bleach'd beneath the torrid noon, and borne
The thunder of a thousand hurricanes,
Raised by the jealous ocean, to repel
That strange encroachment on his old domain.
Fragments of shells, dead sloughs, sea-monster's bones,

* For a more particular account of these coral formations, the reader is referred to the 111 page of the second volume of this work.

Whales stranded in the shallows, hideous weeds
 Hurl'd out of darkness by the uprooting surges;
 These with unutterable relics more,
 Heap'd the rough surface, till the various mass,
 By Nature's chemistry combined and purged,
 Had buried the bare rock in crumbling mould.

All seasons were propitious; every wind,
 From the hot Siroc to the wet Monsoon,
 Temper'd the crude materials; while heaven's dew
 Fell on the sterile wilderness as sweetly
 As though it were a garden of the Lord.

FASCINATION OF SERPENTS.

THERE is a very general opinion, which has been adopted even by some eminent naturalists, that several species of serpents possess the power of fascinating birds and small quadrupeds, by fixing their eyes upon the animal, so that the poor victim is unable to escape from his formidable enemy. Dr. Barton, of Philadelphia, published, in 1796, a "memoir concerning the fascinating faculty which has been ascribed to the rattle-snake, and other American serpents," in which he maintains that this supposed power of fascination does not exist, and offers some ingenious explanations of the origin of what he considers a popular mistake. Our readers will, we think, be interested by an extract or two from this work:—

"In almost every instance I have found that the supposed fascinating faculty of the serpent was exerted upon the birds at the particular season of their laying their eggs, or of their hatching, or of their rearing their young, still tender and defenceless. I now began to suspect, that the cries and the fears of birds supposed to be fascinated originated in an endeavor to protect their nest or young; my inquiries have convinced me that this is the case.

"I have already observed, that the rattle-snake does not climb up trees; but the black snake and some other species of the coluber do. When impelled by hunger and incapable of satisfying it by the capture of animals on the ground, they begin to glide up trees or bushes upon which a bird has its nest. The bird is not ignorant of the serpent's

Object. She leaves her nest, whether it contains eggs or young ones, and endeavors to oppose the reptile's progress. In doing this, she is actuated by the strength of her instinctive attachment to her eggs, or of affection to her young. Her cry is melancholy, her motions are tremulous. She exposes herself to the most imminent dan-



The Red-winged Maize-thief and Black Snake.

ger. Sometimes she approaches so near the reptile that he seizes her as his prey. But this is far from being universally the case. Often she compels the serpent to leave the tree and then returns to her nest.

"Some years since, Mr. Rittenhouse, an accurate observer, was induced to suppose, from the peculiar melancholy cry of a *red-winged maize-thief*, that a snake was at no great distance from it, and that the bird was in dis-

trees. He threw a stone at the place from which the cry proceeded, which had the effect of driving the bird away. The poor animal, however returned to the same spot. Mr. Rittenhouse now went to the place where the bird alighted, and to his great astonishment, he found it perched upon the back of a large black snake, which it was pecking with its beak. At this very time the serpent was in the act of swallowing a young bird, and from the enlarged size of the reptile's belly it was evident that it had already swallowed two or three other young birds. After the snake was killed the old bird flew away. Mr. R. says, that the cry and actions of this bird had been precisely similar to those of a bird which is said to be under the influence of a serpent. The maize-thief builds its nest in low bushes, the bottom of which are the usual haunts of the black snake. The reptile found no difficulty in gliding up to the nest, from which most probably, in the absence of the mother, it had taken the young ones; or it had seized the young ones after they had been forced from the nest by the mother. In either case the mother had come to prevent them from being devoured.

TOPOGRAPHICAL SKETCHES.

CITY OF PEKIN.

THE first appearance of Pekin is not very striking. In approaching a European city, a variety of objects catch the eye and amuse the mind. The towers and spires of churches, domes, obelisks, and other conspicuous structures, tower above the rest, and burst on the sight with an air of magnificence. The distant view of a Turkish city, in like manner, presenting its lofty domes and minarets, excites ideas of grandeur, and raises expectations which, on entrance, however, are generally disappointed. But this is far from being the case with the Chinese metropolis. In Pekin, not even a chimney is seen rising above the roofs of the houses, and none of the buildings within the city overtop the walls. Nothing therefore pre-

sents itself to the view, but the walls, the lofty gates, and the numerous massy towers.

This city is the capital of the province of Pe-tche-li, and of the whole empire of China Proper. Its name is said to signify the "northern court," and it is so called



City of Pekin in China.

by way of distinction from the city of Nan-King, denominated the "southern court." Pekin was the Cambalu, or the city of the chan, in writings of the middle ages, the capital of Cathay, as Nan-King was of Mange. It is pleasantly situated in a fertile plain, and about sixty English miles from the great wall. This capital forms an oblong square, and is divided into two cities, one called the Chinese, the other the Tartar. These two cities, exclusive of the suburbs, are nearly eighteen miles in circumference. The walls of the city are twenty-eight feet high, twenty-four thick at the base, and twelve at the top; and there are spacious towers at seventy feet distant from each other. The gates are high and well arched, supporting buildings of nine stories high; they are nine in number, of which three are in the south wall, and two in each of the others. The middle gate on the south side opens into the Tartar, or imperial city, which is a space within the general enclosure, about a mile in

length from north to south, and about three quarters of a mile in breadth from east to west, with a rivulet winding through it. A wall built of large red polished bricks, twenty feet high, covered with a roof of tiles, painted yellow and varnished, surrounds this space in which are contained the imperial palace, public gardens, lodgings for the ministers, the tribunals, or public offices of government, and generally all persons connected with the court.

Between the two other gates in the south wall, and the corresponding and opposite ones, on the north side of the city, run two streets perfectly straight, four miles in length, and one hundred and twenty feet in breadth. One street also of the same width, extends from one of the eastern to the opposite western gate, but the other is interrupted by the imperial city, round the walls of which it is carried. The cross lanes branch from the main streets at right angles, are extremely narrow, but the houses are of the same construction as those of the principal streets. All the streets of the Chinese capital are unpaved, and consequently must, in so crowded a city, be extremely dusty in summer, and dirty in winter. Few of the houses in Pekin exceed one story; and none but the great shops have either windows or openings, towards the streets; but most of them have a sort of terrace, with a railed balcony. The population of Pekin was supposed, by a missionary in the last century, to amount to sixteen millions. Another reduces, at least that of the Tartar city, to a million and a quarter. According to the best information however, the city contains about three millions of souls.

The temples of Pekin have no claim to elegance, when compared to its palaces; every house having its altars and its deities. A Russian church has been established in the city, with a seminary, in which the students are permitted to reside, for the purpose of learning the Chinese language. Since this establishment, many interesting publications have appeared at St. Petersburg, relative to the laws, history, and geography of China, translated from the originals published at Pekin. The

city has been visited by several destructive fires, and in 1713 by an earthquake, which buried more than one hundred thousand of its inhabitants in the ruins of the houses.

ARABIAN HOSPITALITY.

Hajji Ben Hassuna, a chief of a party of the Bey's (of Tripoli) troops, pursued by Arabs lost his way, and was benighted near the enemy's camp. Passing the door of a tent which was open, he stopped his horse and implored assistance, being exhausted with fatigue and thirst. The warlike Arab bid his enemy enter his tent with confidence, and treated him with all the respect and hospitality for which his people are so famous. The highest among them, like the patriarchs of old, wait on their guest. A man of rank when visited by a stranger, quickly fetches a lamb from his flock and kills it, and his wife superintends her women in dressing it in the best manner.

With some of the Arabs, the primitive custom, so often spoken of in the Bible, of washing the feet, is yet adopted, and this compliment is performed by the head of the family. Their supper was the best of the fatted lamb-roasted; their dessert, dates and dried fruit; and the Arab's wife, to honor more particularly her husband's guest, set before him a dish of "boseen" of her own making. This was a preparation of flour and water kneaded into a paste, which being half baked was broken into pieces and kneaded again with new milk, oil, and salt, and garnished with "kadeed," or mutton, dried and salted in the highest manner.

Though these two chiefs were opposed in war, they talked with candor and friendship to each other, recounting the achievements of themselves and their ancestors, when a sudden paleness overspread the countenance of the host. He started from his seat and retired, and in a few moments afterwards sent word to his guest that his bed was prepared, and all things ready for his repose; that he was not well himself, and could not attend to

finish the repast; that he had examined the Moor's horse, and found it too much exhausted to bear him through a hard journey the next day, but that before sunrise an able horse with every accommodation would be ready at the door of the tent, where he would meet him and expect him to depart with all speed. The stranger, not able to account farther for the conduct of his host, retired to rest.

An Arab awaked him in time to take refreshment before his departure, which was ready prepared for him; but he saw none of the family, till he perceived, on reaching the door of the tent, the master of it holding the bridle of his horse, and supporting his stirrups for him to mount, which is done among the Arabs as the last office of friendship. No sooner was Hajji mounted than his host announced to him, that through the whole of the enemy's camp he had not so great an enemy to dread as himself. "Last night," said he, "in the exploits of your ancestors you discovered to me the murderer of my father. There lie all the habits he was slain in," (which were at that moment brought to the door of the tent), "over which in the presence of my family, I have many times sworn to revenge his death, and to seek the blood of his murderer from sunrise to sunset. The sun has not yet risen:—the sun will be no more than risen; when I pursue you, after you have in safety quitted my tent, where, fortunately for you, it is against our religion to molest you after your having sought my protection, and found a refuge there; but all my obligations cease as soon as we part, and from that moment you must consider me as one determined on your destruction, in whatever part, or at whatever distance we may meet again. You have not mounted a horse inferior to the one that stands ready for myself; on its swiftness surpassing that of mine depends one of our lives, or both."

After saying this, he shook his adversary by the hand and parted from him. The Moor, profiting by the few moments he had in advance, reached the Bey's army in time to escape his pursuer, who followed him closely, as near the enemy's camp as he could with safety. This

was certainly a striking trait of hospitality, but it was no more than every Arab and every Moor in the same circumstances would do.—*Tully's residence at Tripoli.*

THE AIR WE BREATHE.

NOTHING is more interesting than those general laws by which God preserves the order of the world. If we had a complete knowledge of all the wonderful contrivances that surround us, we should be filled with admiration and awe: to contemplate those with which we are acquainted, is the highest of intellectual pleasures.

One of these contrivances may be made intelligible even to those who have no acquaintance with Natural Philosophy.

The air is made up of *two different gases*, or airs, mixed together in a particular proportion. Of these, *one (oxygen)*, which we call *life-air*, is necessary for the support of men and all other animals, which would die without it; neither could any thing *burn* without the help of this *life-air*. Since, then, a vast quantity of it is consumed every hour, how is the supply kept up? How is it that the stock of *life-air* is still sufficient for us, and our fires and candles?

Now, besides these two gases, there is also present in the atmosphere another gas, called carbonic acid, which is made up of *carbon* and *life-air*. The name will be unknown to many, but all are well acquainted with the thing: it is what gives spirit to ale, wine, &c., and even to water, which is insipid after boiling, from the loss of its carbonic acid.

This carbonic acid is produced by the breathing of animals, and the putrefaction of animal and vegetable substances. Now this constant supply *must be got rid of*, or it would kill us; and *it is got rid of* thus: all vegetables—grass, herbs, trees, &c.—suck in this carbonic acid during the day; nourish themselves with the *carbon*, and give back the *life-air* that was combined with it. In the night, they do the reverse; but still, taking a

whole day, they lessen the quantity of carbonic acid gas, and furnish the atmosphere with that supply of life-air, which is necessary for the existence of the animal creation.

THERE are many teachers who profess to show the nearest way to excellence; and many expedients have been invented by which the toil of study might be saved; but let no man be seduced to idleness by specious promises. Excellence is never granted to man, but as the reward of labor. It argues, indeed, no small strength of mind, to persevere in habits of industry, without the pleasure of perceiving those advances; which, like the hand of a clock, whilst they make hourly approaches to their point, yet proceed so slowly as to escape observation.

There is one precept, however, in which I shall only be opposed by the vain, the ignorant, and the idle. I am not afraid that I shall repeat it too often. You must have no dependence on your own genius. If you have great talents, industry will improve them; if you have but moderate abilities, industry will supply their deficiency. Nothing is denied to well-directed labor; nothing is to be obtained without it.—*Sir Joshua Reynolds.*

PLATO entertained some of his friends at dinner, and had in the chamber a couch neatly and costly furnished. Diogenes came in, and got upon the couch, and trampled it, saying, "I trample upon the pride of Plato." Plato mildly answered, "But with greater pride."—*Lord Bacon.*

Or the gradual abatement of kindness between friends, the beginning is often scarcely discernible by themselves; and the process is continued by petty provocations and incivilities, sometimes peevishly returned, and sometimes contemptuously neglected, which would escape all attention but that of pride, and drop from any memory, but that of resentment.—*Dr. Johnson.*

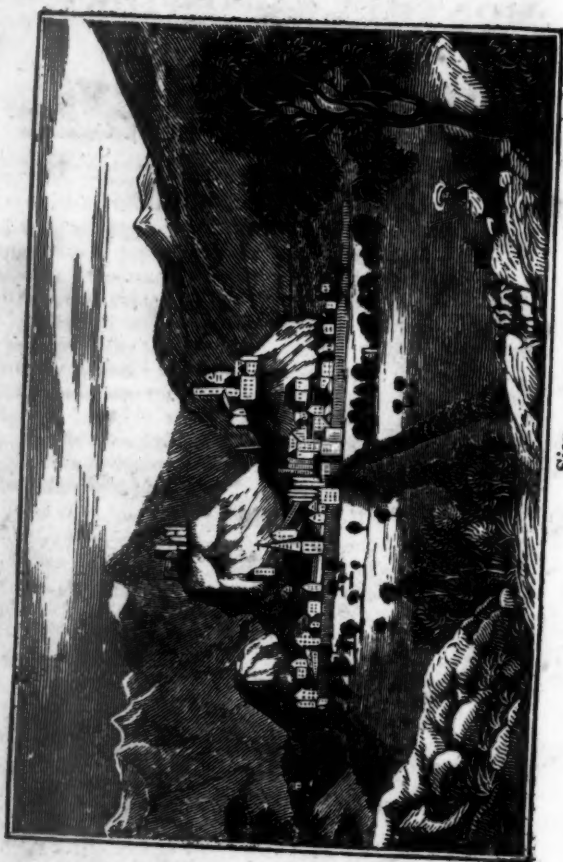
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